

## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER POR PATENTS PO Box (430 Alexandra, Virginia 22313-1450 www.opto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,003	02/04/2008	Kevin Lloyd Grimes	PU030240	5841
24-98 7599 060302010 Robert D. Shelf, Patent Operations THOMSON Licensing LLC P.O. Box 5312 Princeton, NJ 08543-5312			EXAMINER	
			HERZOG, MADHURI R	
			ART UNIT	PAPER NUMBER
			2438	
			MAIL DATE	DELIVERY MODE
			06/03/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.	Applicant(s)	
10/568,003	GRIMES, KEVIN LLOYD	
Examiner	Art Unit	
MADHURI HERZOG	2438	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS.

- WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
- after SIX (6) MONTHS from the mailing date of this communication. If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
- earned patent term adjustment. See 37 CFR 1.704(b).

	, , , , , , , , , , , , , , , , , , , ,			
Status				
1)🛛	Responsive to communication(s) filed on <u>04 March 2010</u> .			
2a)⊠	This action is <b>FINAL</b> . 2b) ☐ This action is non-final.			
3)	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is			
	closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.			
Disposition of Claims				

4) Claim(s) 1-6.17 and 20-30 is/are pending in the application.
4a) Of the above claim(s) is/are withdrawn from consideration.
5) Claim(s) is/are allowed.
6) Claim(s) <u>1-6, 17 and 20-30</u> is/are rejected.
7) Claim(s) is/are objected to.
8) Claim(s) are subject to restriction and/or election requirement.

9)☐ The specification is objected to by the Examiner.
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

a) ☐ All b) ☐ Some \* c) ☐ None of:

Application Papers

1.	Certified copies of the priority documents have been received.
2.	Certified copies of the priority documents have been received in Application No
3.	Copies of the certified copies of the priority documents have been received in this National Stag
	application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)		
Notice of References Cited (PTO-892)   Notice of Draftsperson's Patent Drawing Review (PTO-948)   Information Disclosure Glatement(s) (PTC/95/06)   Paper No(s)/Mail Date   Paper No(s)/Mail Date	4) Interview Summary (PTO-413) Paper No(s)/Mail Date. 5) Notice of Informal Patent Application. 6) Other:	
S. Patent and Trademark Office		

Art Unit: 2438

#### DETAILED ACTION

The following is a Final Office action in response to communications received March 04, 2010.

## Response to Amendment

- Claims 1, 4-6, 17 and 20-22 have been amended. Claims 7-16 and 18-19 have been cancelled. Claims 23-30 have been newly added. Following, claims 1-6, 17 and 20-30 are pending and addressed herein. All non-patent literature cited in this document has been provided in the previous office action.
- 2. Applicant's arguments with respect to claims 1, 5, 17 and 20 regarding the newly added features such as, wherein the set of descrambling keys includes at least one descrambling key for an unselected channel, the at least one descrambling key being submitted with program data on the unselected channel that differs from the userselected channel and which is derived from monitoring the unselected channel and used when the unselected channel is subsequently selected by a user, determining, from the digital transmission, a decoding key for descrambling transport packets included within the potential viewing channel while tuning and decoding a user-selected channel, and continuing to monitor a digital transmission for decoding keys for those channels which have not had their decoding keys determined have been fully considered but are moot in view of the new ground(s) of rejection necessitated by the amendments.

Art Unit: 2438

## Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filled in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filled in the United States before the invention by the applicant for patent, except that an international application filled under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

 Claims 1-4, 23-24 and 26-30 rejected under 35 U.S.C. 102(e) as being anticipated by US 2005/0201559 to Gerardus Wilhelmus Theodorus Van Der Heijden (hereinafter Heidien).

As per claim 1, Heidjen teaches:

(Currently amended). A receiver (Heidjen: Fig. 2) comprising:

a controller responsive to a user's request for a user-selected one of the plurality of channels to determine one of a set of descrambling keys for the user-selected channels to be outputted to a descrambler to thereby enable the descrambler to descrambled digital transport streams associated with the user-selected (Heidjen: Fig. 5 and para [0027]: The controller 460 supplies control words to be decrypted by the decryptor 560 into content keys. For active data streams (channels selected by user), the content keys are immediately supplied to the descrambler to descramble the active data streams (digital transport streams) using the content keys (descrambling keys)), wherein the set of descrambling keys includes at least one descrambling key for an unselected channel, the at least one descrambling key being submitted with program data on the unselected channel that differs from the user-

Art Unit: 2438

selected channel and which is derived from monitoring the unselected channel and used when the unselected channel is subsequently selected by a user (Heidjen: para [0029]: The stored decrypted control words are used to enable fast selection of a new channel. The controller estimates one or more channels that the user may select next. The controller instructs the tuner/de-multiplexer to already supply the control word stream for the predicted channels (unselected channels). The controller ensures that for each of the predicted channels (unselected channels), at least one content key (descrambling key) is available (by decrypting the control words). On actual selection (subsequent selection) of the new channel, the corresponding data stream is supplied to the descrambler and the content key supplied, without first having to wait for the receipt of the control word and the decryption of the control word).

## As per claim 2, Heidjen teaches:

The receiver in claim 1, wherein the set of descrambling keys are stored in a memory (Heidjen: para [0027]: The controller ensures that the content keys (descrambling keys) supplied by the decryptor are stored in a memory).

## As per claim 3, Heidjen teaches:

The receiver in claim 1, wherein the set of descrambling keys are compared, in a program selection mode of operation, to identify a desired digital transport stream (Heidien: para [0026] and [0029]: When a user selects a channel, the tuner and de-

Art Unit: 2438

multiplexer are controlled to supply the channel and the associated control word stream, i.e., every channel is associated with its own control word stream.

Therefore, every channel is associated with its own set of content keys. On actual selection of the new channel, the corresponding data stream and the content key are supplied to the descrambler, without first having to wait for the receipt of the control word and the decryption of the control word, i.e., based on the channel selection, corresponding content keys and data stream are compared to enable decryption of the data stream).

#### As per claim 4, Heidjen teaches:

The receiver in claim 2, wherein the set of descrambling keys are retrieved from the memory, responsive to selected one of the two or more tuned channels (Heidjen: para [0027]: Until actually used by the descrambler, the content keys are stored in a general purpose memory. It is inherent from this that when required, the content keys are retrieved from the general purpose memory).

## As per claim 23, Heidjen teaches:

(New). The receiver in claim 1, wherein the unselected channel is periodically monitored for updated descrambling keys (Heidjen: para [0026]-[0027]: Every 10 seconds (periodically), an ECM is supplied with a new control word (decoding keys) for an associated data stream (unselected channel). The controller filters the control word streams and deletes duplicate copies (periodically monitoring

Art Unit: 2438

for updated control words). The output of the filter is put in one buffer 550 acting as a queue (of control words)).

## As per claim 24, Heidjen teaches:

(New). The receiver in claim 1, wherein the unselected channel is selected from a predetermined set of potential viewing channels (Heidjen: para [0029]: The controller estimates one or more channels the users may want to select next (predetermined set of potential viewing channels) and decrypts the associated control words to content keys. On actual selection of the new channel, the corresponding data stream is supplied to the descrambler along with the content key, without first having to wait for the receipt of the control word and the decryption of the control word. It is inherent that the selection of the new channel is from one of the predicted channels).

### As per claim 26, Heidjen teaches:

(New) A method of video transmission reception (Heidjen: fig. 1) comprising: tuning to a user-selected channel and acquiring transport packets carried within the user-selected channel (Heidjen: para [0025]: When the user selects a channel, the preset number is translated into a form suitable for controlling the tuner 410 and de-multiplexer 420. For a digital system, this identification includes the transport stream id. Using the network information table, the

Art Unit: 2438

transport\_stream\_id is translated to a frequency to enable the tuner 410 to tune to the frequency multiplexed transport stream);

determining a descrambling key included in the transport packets carried within the user-selected channel for the user-selected channel and descrambling digital program transport streams carried within the selected channel in response to a user request to tune and decode the user-selected channel (Heidjen: Fig. 5 and para [0023] and [0027]: The control words are transmitted in an Entitlement Control Message that is embedded in an MPEG transport stream. The controller 460 supplies control words to be decrypted by the decryptor 560 into content keys. For active data streams (channel requested by user), the associated content keys are immediately supplied to the descrambler to descramble the active data streams (digital transport streams) using the content keys (descrambling keys)); and

monitoring a non-selected channel that is different from the user-selected channel, to derive descrambling keys associated with the non-selected channel and storing the descrambling keys in a memory, whereby the stored descrambling keys are used to decode digital transport streams when the non-selected channel is subsequently selected by the user (Heidjen: para [0027]-[0029]: Until used by a descrambler, content keys (descrambling key) are stored in a general purpose memory of the receiver. The stored decrypted control words are used to enable fast selection of a new channel. The controller estimates one or more channels that the user may select next. The controller instructs the tuner/de-multiplexer to already supply the control word stream for the predicted channels (unselected

Art Unit: 2438

channels). The controller ensures that for each of the predicted channels (unselected channels), at least one content key (descrambling key) is available (by decrypting the control words). On actual selection (subsequent selection) of the new channel, the corresponding data stream is supplied to the descrambler and the content key supplied, without first having to wait for the receipt of the control word and the decryption of the control word).

#### As per claim 27, Heidjen teaches:

(New). The method of reception in claim 26, wherein the monitoring step is performed periodically to determine updated descrambling keys (Heidjen: para [0026]-[0028]: Every 10 seconds (periodically), an ECM is supplied with a new control word (decoding keys) for an associated data stream (unselected channel). The controller filters the control word streams and deletes duplicate copies (periodically monitoring for updated control words). The output of the filter is put in one buffer 550 acting as a queue (of control words)); and

further comprising storing updated descrambling keys in memory (Heidjen: para [0027]-[0029]: Until used by a descrambler, content keys (descrambling key) are stored in a general purpose memory of the receiver).

#### As per claim 28, Heidjen teaches:

(New). The method of reception in claim 26, wherein the non-selected channel comprises a set of potential viewing channels (Heidjen: para [0027]: The controller

Art Unit: 2438

estimates one or more channels the users may want to select next (predetermined set of potential viewing channels) and decrypts the associated control words to content keys. On actual selection of the new channel, the corresponding data stream is supplied to the descrambler along with the content key, without first having to wait for the receipt of the control word and the decryption of the control word. It is inherent that the selection of the new channel is from one of the predicted channels).

## As per claim 29, Heidjen teaches:

(New). The method of reception in claim 26, further comprising comparing the descrambling keys in a program selection mode of operation, to identify a desired digital transport stream (Heidjen: para [0026] and [0029]: When a user selects a channel, the tuner and de-multiplexer are controlled to supply the channel and the associated control word stream, i.e., every channel is associated with its own control word stream. Therefore, every channel is associated with its own set of content keys. On actual selection of the new channel, the corresponding data stream and the content key are supplied to the descrambler, without first having to wait for the receipt of the control word and the decryption of the control word, i.e., based on the channel selection, corresponding content keys and data stream are compared to enable decryption of the data stream).

As per claim 30. Heidien teaches:

Art Unit: 2438

(New). The method of reception in claim 17, wherein the step of determining a decoding key comprises periodically determining an updated decoding key as required for a channel in which the decoding key is changed on a period basis (Heidjen: para [0026]-[0027]: Every 10 seconds (periodically), an ECM is supplied with a new control word (updated decoding keys) for an associated data stream (channel). The controller filters the control word streams and deletes duplicate copies (periodically monitoring for updated control words). The output of the filter is put in one buffer 550 acting as a queue (of control words)).

#### Claim Rejections - 35 USC § 103

- The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148
   USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
  - Determining the scope and contents of the prior art.
  - 2. Ascertaining the differences between the prior art and the claims at issue.
  - Resolving the level of ordinary skill in the pertinent art.
  - Considering objective evidence present in the application indicating obviousness or nonobviousness.
- Claims 5-6 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heidien.

Art Unit: 2438

As per claim 5, Heidjen teaches:

A receiver (Heidjen: Fig. 2) comprising:

a tuning and a decoding unit for tuning and decoding a digital transmission to produce control words associated with respective channels included in the digital transmission (Heidjen: para [0026]: When a user selects a channel, the tuner and de-multiplexer are controlled to supply the channel and the associated control word stream. Tuner 410 includes several parallel arranged tuning units, each capable of tuning to one transport stream. Analogously, the multiplexer function 420 provides a plurality of control word streams using multiple parallel arranged sets or one set of de-multiplexes hardware/software); and

a controller, to <u>responsive</u> to a user's request <u>to tune and decode</u> a <u>user</u>-selected <u>channel</u>, for <u>using first control</u> words to generate a descrambling key for the <u>user</u>-selected channel to be outputted <u>to a descrambler to thereby enable the descrambler</u> to descramble digital transport streams <u>associated with the user selected channel</u> (Heidjen: Fig. 5 and para [0027]: The controller 460 supplies control words (first control words) to be decrypted by the decryptor 560 into content keys (descrambling keys). For active data streams (channel selected by user), the content keys are immediately supplied to the descrambler to descramble the active data streams (digital transport streams) using the content keys (descrambling keys));

Art Unit: 2438

the tuning and decoding unit also monitoring a non-selected channel, which differs from the user-selected channel, to derive control words associated with the nonelected channel and storing the control words in a memory, the control words being transmitted with program data on the non-selected channel whereby the stored control words are used to decode digital transport streams when the non-selected channel is subsequently selected by the user (Heidien: para [0027]-[0029]: The queue of control words is stored in a memory 480 and supplied to the decrypor 560. The decrypted control words are then stored in a memory. The stored decrypted control words are used to enable fast selection of a new channel. The controller estimates one or more channels that the user may select next. The controller instructs the tuner/de-multiplexer to already supply the control word stream for the predicted channels (unselected channels different from the user-selected channel). The controller ensures that for each of the predicted channels (unselected channels), at least one content key (descrambling key) is available (it is inherent that to ensure availability of the content keys, the controller derives the associated control words associated with the channel). On actual selection (subsequent selection) of the new channel, the corresponding data stream is supplied to the descrambler and the content key supplied, without first having to wait for the receipt of the control word. Para [0023]: The control words are transmitted in an Entitlement Control Message that is embedded in an MPEG transport stream).

Heidjen teaches storing decrypted control words for a non-selected channel.

However, the claim would have been obvious because the substitution of one known

Art Unit: 2438

element (control words) for another (decrypted control words) would have yielded predictable results to one of ordinary skill in the art at the time of the invention (see KSR Int'l Co. v. Teleflex Inc. 550 U.S. \_\_\_\_, 82 USPQ2d 1385 (Supreme Court 2007) (KSR)).

## As per claim 6, Heidjen teaches:

(Currently amended) The receiver in claim 5, wherein the <u>controller periodically monitors the non-selected channel for updated control words and the updated set of control words are stored in a memory (Heidjen: para [0026]-[0027]: Every 10 seconds, an ECM is supplied with a new control word for an associated data stream (non-selected channel). The controller filters the control word streams and deletes duplicate copies (monitoring for updated control words). The output of the filter is put in one buffer 550 acting as a queue (of control words). Memory 480 is used for storing the queue (of control words)).</u>

### As per claim 25, Heidjen teaches:

(New). The receiver in claim 5, wherein the controller selects the non-selected channel from a predetermined set of potential viewing channels (Heidjen: para [0029]: The controller estimates one or more channels the users may want to select next (predetermined set of potential viewing channels) and decrypts the associated control words to content keys. On actual selection of the new channel, the corresponding data stream is supplied to the descrambler along with the content key, without first having to wait for the receipt of the control word and the

Art Unit: 2438

decryption of the control word. It is inherent that the selection of the new channel is from one of the predicted channels).

 Claims 17 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art of record, US 5,933,192 to Crosby et al (hereinafter Crosby) and Heidjen.

As per claim 17, Crosby teaches:

(Currently amended) A method of reception (Crosby: column 1, lines 49-52: A multi-channel digital video receiver and method are presented) comprising the steps of:

determining a potential viewing channel in a digital transmission (Crosby: column 1, lines 54-67: The receiver includes a tuning unit with two or more tuner modules. While one tune tunes to the channel currently selected by the user, the other tuner tunes to a next predicted channel (determining a potential viewing channel));

determining if all channels having the potential for viewing have had the respective decoding keys determined and if all channels having the potential for viewing have not had the respective decoding keys determined (Crosby: column 2, lines 19-30, column 4, lines 11-19 - column 6, lines 12-34: The microcontroller predicts the next channel based on the user's previous channel change commands. The predicted channels are decoded by decoder modules (it is inherent that a decoding key is used) such as decoder module B. It is inherent that for a predicted channel to be decoded, the associated decoding key is determined. The

Art Unit: 2438

microcontroller regularly evaluates the user's experiences in channel changes and continually predicts the next channel based on the evaluation. It is inherent that for a new evaluation, new channels are predicted that do not have their decoding keys determined yet);

Crosby does not teach <u>determining</u>, from the <u>digital transmission</u>, a <u>decoding key</u> for <u>descrambling transport packets included within the potential viewing channel while tuning and <u>decoding a user-selected channel</u>, storing the decoding key in a memory, and continuing to monitor a digital transmission for <u>decoding keys for those channels which have not had their decoding keys determined</u>. However, Heidjen teaches:</u>

determining, from the digital transmission, a decoding key for descrambling transport packets included within the potential viewing channel while tuning and decoding a user-selected channel (Heidjen: para [0023] and [0029]: The control words are transmitted in an Entitlement Control Message that is embedded in an MPEG transport stream. Decrypted control words (decoding keys) are used to enable fast selection of a new channel. When the user selects one channel for viewing, the controller estimates one or more channels that the user may select next (potential viewing channels). The controller instructs the tuner/demultiplexer to already supply the control word stream for the predicted channels. The controller ensures that for each of the predicted channels (potential viewing channels), at least one content key (decoding key) is available (it is inherent that to ensure availability of the content keys, the controller derives the associated control words associated with the channel from the transport stream);

Art Unit: 2438

storing the decoding key in a memory (Heidjen: para [0027]: The controller ensures that the content keys (descrambling keys) supplied by the decryptor are stored in a memory);

continuing to monitor a digital transmission for <u>decoding keys for those channels</u> which have not had their <u>decoding keys determined</u> (Heidjen: para [0026]-[0027]:

Every 10 seconds, an ECM is supplied with a new control word (decoding keys) for an associated data stream (channel which has not had its decoding keys determined). The controller filters the control word streams and deletes duplicate copies (monitoring for control words). The output of the filter is put in one buffer 550 acting as a queue (of control words). Memory 480 is used for storing the queue (of control words)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the teachings of Heidjen in the invention of Crosby to determining, from the digital transmission, a decoding key for descrambling transport packets included within the potential viewing channel while tuning and decoding a user-selected channel and continuing to monitor a digital transmission for decoding keys for those channels which have not had their decoding keys determined. The motivation to do so would be that on actual selection of the predicted channel, the corresponding data stream is supplied to the descrambler and the content key supplied, without first having to wait for the receipt of the control word (Heidjen: para [0029]).

As per claim 20, Crosby teaches:

Art Unit: 2438

A method of reception (Crosby: column 1, lines 49-52: A multi-channel digital video receiver and method are presented) comprising the steps of:

determining a potential viewing channel in a digital transmission (Crosby: column 1, lines 54-67: The receiver includes a tuning unit with two or more tuner modules. While one tune tunes to the channel currently selected by the user, the other tuner tunes to a next predicted channel (determining a potential viewing channel)):

determining if all channels having the potential for viewing have had the (control word decoded) and if all channels having the potential for viewing have not had the respective (control word decoded) (Crosby: column 2, lines 19-30, column 4, lines 11-19 - column 6, lines 12-34: The microcontroller predicts the next channel based on the user's previous channel change commands. The predicted channels are decoded by decoder modules (it is inherent that a decoding key is used) such as decoder module B. It is inherent that for a predicted channel to be decoded, the associated decoding key is determined. The microcontroller regularly evaluates the user's experiences in channel changes and continually predicts the next channel based on the evaluation. It is inherent that for a new evaluation, new channels are predicted that do not have their decoding keys determined yet);

Crosby inherently teaches determining the decoding key to decode the predicted channel but does not teach decoding the control word for the potential channel. Also, Crosby does not teach decoding a control word associated and transmitted with the potential viewing channel while tuning and decoding a user-selected channel, storing

Art Unit: 2438

the decoding key in a memory and continuing to monitor a digital transmission for decoding keys for those channels which have not had their control word determined. However, Heidien teaches:

decoding the control word for the potential channel (Heidjen: para [0026][0029]: The controller instructs the tuner/demultiplexer to supply the control word
for the predicted channels and ensures that content keys are available for the
predicted channels. The content keys are obtained by decrypting the control
words)

decoding a control word associated and transmitted with the potential viewing channel while tuning and decoding a user-selected channel (Heidjen: para [0023] and [0029]: The control words are transmitted in an Entitlement Control Message that is embedded in an MPEG transport stream. Decrypted control words (decoding keys) are used to enable fast selection of a new channel. When the user selects one channel for viewing, the controller estimates one or more channels that the user may select next (potential viewing channels). The controller instructs the tuner/de-multiplexer to already supply the control word stream for the predicted channels. The controller ensures that for each of the predicted channels (potential viewing channels), at least one content key (decoding key) is available (it is inherent that to ensure availability of the content keys, the controller derives the associated control words associated with the channel from the transport stream).

Art Unit: 2438

storing the decoding key in a memory (Heidjen: para [0027]: The controller ensures that the content keys (descrambling keys) supplied by the decryptor are stored in a memory);

continuing to monitor a digital transmission for <u>decoding keys for those channels</u> which have not had their control word <u>determined</u> (Heidjen: para [0026]-[0027]: Every 10 seconds, an ECM is supplied with a new control word (decoding keys) for an associated data stream (channel which has not had its control words determined). The controller filters the control word streams and deletes duplicate copies (monitoring for control words). The output of the filter is put in one buffer 550 acting as a queue (of control words). Memory 480 is used for storing the queue (of control words)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the teachings of Heidjen in the invention of Crosby to determining, from the digital transmission, a decoding key for descrambling transport packets included within the potential viewing channel while tuning and decoding a user-selected channel and continuing to monitor a digital transmission for decoding keys for those channels which have not had their decoding keys determined. The motivation to do so would be that on actual selection of the predicted channel, the corresponding data stream is supplied to the descrambler and the content key supplied, without first having to wait for the receipt of the control word (Heidjen: para [0029]).

As per claim 21. Crosby in view of Heidien teaches:

Art Unit: 2438

The method of reception in claim 20, further comprising the step of retrieving the control word to descramble a key associated with a <u>user-selected viewing channel</u> (Heidjen: para [0027]: The controller filters the control word streams and deletes duplicate copies. The output of the filter is put in one buffer 550 acting as a queue (of control words). Memory 480 is used for storing the queue (of control words). The controller supplies the control words form the queue to the decryptor 560 to decrypt the control words to content keys. For active data streams (selected viewing channel), the content key is immediately supplied to the descrambler to descramble the data streams).

The examiner provides the same rationale to combine references Crosby and Heidjen as in claim 20 above.

#### As per claim 22, Crosby in view of Heidjen teaches:

The method of reception in claim 21, further comprising the step of utilizing the control word to descrambling a key associated with a <u>user-selected viewing channel</u> to assemble digital data Heidjen: para [0027]: The controller supplies the control words form the queue to the decryptor 560 to decrypt the control words to content keys. For active data streams (selected viewing channel), the content key is immediately supplied to the descrambler to descramble the data streams. The supply of the data stream to the descrambler and the corresponding content key is then synchronized. It is inherent that the data is descrambled using the content key to present to the user for viewing (assembling digital data)).

Art Unit: 2438

The examiner provides the same rationale to combine references Crosby and Heidien as in claim 20 above.

#### Conclusion

 Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MADHURI HERZOG whose telephone number is (571)270-3359. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Taghi Arani can be reached on 571-272-3787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2438

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MADHURI HERZOG/ Examiner, Art Unit 2438 /Taghi T. Arani/

Supervisory Patent Examiner, Art Unit 2438